

**CORRECTIONS AND ADDITIONS TO
THE GENUS *AGALLIA*
(HOMOPTERA, CICADELLIDAE, AGALLIINAE)
OF THE AMERICAS¹**

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ABSTRACT: The species *Agallia lingula* Van Duzee from Jamaica and *A. peregrinans* (Stål) from Brazil are redescribed and discussed. Also three new species, *A. nielsoni* (U.S.A., Mexico, Central America, Columbia and Venezuela), *A. peck* (Ecuador), and *A. rotunda* (Venezuela) are described. The new species were confused with the older species and differences between these species are discussed. Lectotypes are designated for *A. lingula* and *A. peregrinans* to help eliminate confusion.

KEY WORDS: *Agallia*, Homoptera, Cicadellidae, Agallinae, North, Central, and South America.

The *Agallia* species of North, Central, and South America are fairly well known and described, and in general lead to little confusion. However, the species *A. lingula* Van Duzee has been misidentified from the time Oman (1933) published his paper on the North American species of the subfamily Agalliinae. This error is corrected in this paper while describing the five species involved. The species included are the two described species, *A. lingula* and *A. peregrinans* (Stål), and three new species. All five species are nearly the same size and with the same external features (Osborn 1924, plate LIX; Oman 1938, plate XLV) within the common variation that occurs in each of the species. However, the five species belong to three distinct species groups within the genus *Agallia* mainly based on genitalic characters.

Agallia lingula Van Duzee
(Figures 2-4)

Agallia lingula, Van Duzee 1907, p. 54 (Type locality – Jamaica, Montego Bay).

Agallia lingula, Oman 1933, p. 33 (in part, Jamaica records only).

Agallia lingula, DeLong and Caldwell 1937, p. 2 (in part, Jamaica records only).

Agallia lingula, DeLong and Knull 1945, p. 13 (in part, Jamaica records only).

Agallia peregrinans, Linnavuori 1968, p. 149. Misidentified.

Agallia peregrinans, Nielson and Godoy 1995, p. 146 (in part, Jamaica records only). Misidentified not *A. peregrinans* Stål.

Length. Males 3.3-3.6 mm, females 3.4- 3.7 mm. This species is very closely related to *A. lingulata* Olsen found in the United States (Oman, 1933), with the same type of male genitalia only slightly smaller and the same type of female seventh sternum with a lingulate median process.

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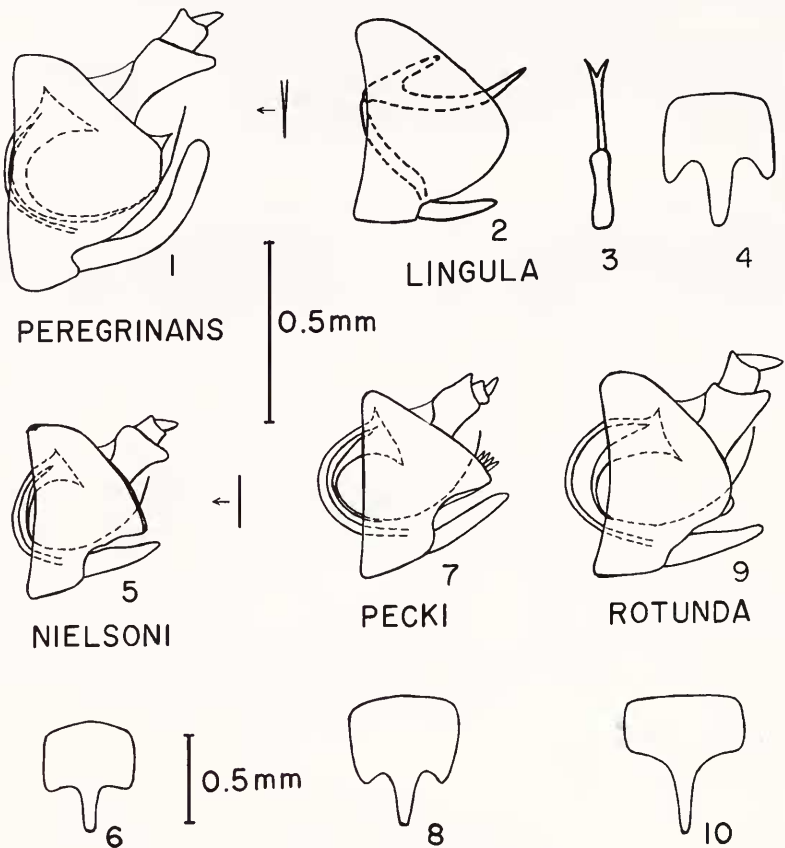


Figure 1. *Agallia peregrinans* (Stål). Figures 2-4. *A. lingula* Van Duzee. Figures 5-6. *A. nielsoni* n. sp. Figures 7-8. *A. pecki* n. sp. Figures 9-10. *A. robusta* n. sp. Figures 1, 2, 5, 7, and 9 depict male genital capsule, lateral view, all drawn to same scale. Figure 3, illustrates male aedeagus, ventral view. Figures 4, 6, 8, and 10 represent female seventh sternum, ventral view, all drawn to same scale.

Male Genitalia. Similar to *A. lingulata* in general appearance (Fig. 2). Plates short, stout. Pygofer with posterior margin evenly rounded. Aedeagus (Fig. 3) with long stem, bifurcate, upturned at apex. Connective long, not bent near base.

Female Genitalia. Seventh sternum (Fig. 4) similar to *A. lingulata* with median lingulate process short and rounded at apex.

Types. Three syntypes (one male and two females) labeled Montego Bay, Jamaica.; Apr. '06; E P Van Duzee Collector, (California Academy of Sciences Collection). The male is herein designated as the Lectotype of this species and is so labeled. The three specimens have type labels indicating Lectotype, Allotype, and Paratype, but these labels have no standing as there has been no reference to this in the literature. For stability, I have chosen the male to represent this species, even though all three types are without a doubt the same species. All three specimens have been examined, and are in good condition, except for one female which shows a small amount of dermestid damage.

Distribution. This species is only known from Jamaica and only from the type series.

Notes. This species has been misidentified almost from the time it was described. Van Duzee (1907) described this species from the three types mentioned above. Oman (1933) examined a female syntype and determined that it was the same as the Central American species being described as new in this paper. On the basis of the female the identification of this species was wrongly placed. All subsequent workers followed his identification until recently when Linnavuori (1968) and Nielson and Godoy (1995) misidentified this species further by placing it in synonymy with *A. peregrinans*. This was based on a wrong indication by Linnavuori (1968) and Linnavuori and DeLong (1979), and will be discussed further under that species.

This species belongs to a small group of species which is characterized by having the male aedeagus v-shaped in lateral view extending from a long connective which places the aedeagus near the dorsal part of the genital chamber. and the female seventh sternum with a lingulate median process. This group includes the following three species: *A. lingula* Van Duzee, *A. lingulata* Olsen 1900, and *A. neoalbidula* Oman 1938. Possibly *A. striolaris* (Butler) 1877 also belongs in this group, but the female is unknown.

Agallia nielsoni, NEW SPECIES

(Figures 5-6)

Agallia lingula, Oman 1933, p. 33 (in part, Central America, Mexico and USA records) not *A. lingula* Van Duzee.

Agallia lingula, Oman 1934, p. 454, not *A. lingula* Van Duzee.

Agallia lingula, DeLong and Caldwell 1937, p. 2 (in part, Central American, Mexican and USA records) not *A. lingula* Van Duzee.

Agallia lingula, DeLong and Knull 1945, p. 13 (in part, Central American, Mexican and USA records) not *A. lingula* Van Duzee.

Agallia lingula, Oman 1949, p. 37, not *A. lingula* Van Duzee.

Agallia lingula, Linnavuori 1956, p. 6 and 14, not *A. lingula* Van Duzee.

Agallia peregrinans, Linnavuori 1968, p. 149, misidentified, not *A. peregrinans* Stål.

Agallia peregrinans, Nielson and Godoy 1995, p. 146 (in part, Central American, Mexican and USA records, misidentified, not *A. peregrinans* Stål).

Length. Males 3.4-3.6 mm, females 3.5-3.8 mm. Externally very similar to *A. lingula*, but with quite different male genitalia.

Male genitalia. Plates (Fig. 5) short, extending to near apex of pygofer. Pygofer with dorsal surface rounded to apex, with a thickened margin. apex roundedly pointed. Aedeagus (Fig. 5) strap-like, curving back alongside connective in nearly a complete circle, apex near anal tube, pointed, needle-like. Connective long, arched, extending to near base of anal tube.

Female genitalia. Seventh sternum (Fig. 6) with narrow lingulate process in middle, length of process less than length of segment, with apex somewhat truncate.

Types. Holotype male, Honduras, El Zamorano, December 24, 1960, P. H. Freytag, sweeping sweet potatoes. Allotype female, same data as holotype. Paratypes: One male and two females, same

data as holotype, but without host plant data. Holotype and Allotype in the California Academy of Sciences collection and the three paratypes in the University of Kentucky collection.

Distribution. This species is one of the most common *Agallia* species in Central America. Many specimens have been seen from the USA (Texas), Mexico, all of Central America, Colombia, and Venezuela. Literature citations also record this species from Louisiana, but I have not seen any specimens to back up this locality record.

Etymology. This species is named for Merv Nielson who has done so much recent work on this subfamily.

Notes. This species is the one illustrated in Oman (1933) as *A. lingula* (Figures 6 a-c and 15 h). The genitalia of both the male and female are quite different from *A. lingula* as illustrated. This species is found primarily in Central America and has never been collected in the Caribbean Islands. This species belongs to a group of species that have the recurved aedeagus which is long and needle like, a short genital plate, and the female seventh sternum with a lingulate process. This group is made up of three species described in this paper, *A. nielsoni*, *A. pecki*, and *A. rotunda*.

Agallia pecki, NEW SPECIES

(Figures 7-8)

Length. Males 3.3-3.5 mm, females 3.4-3.6 mm. Similar to *A. nielsoni* in general external characters, but with different male and female genitalia.

Male genitalia. Plates (Fig.7) short, stout, extending to apex of pygofer. Pygofer, in lateral view, nearly triangular, with dorsal surface nearly straight, with three to four papilla-like setae near apex (exaggerated slightly in drawing). Aedeagus similar to *A. nielsoni* in shape, but slightly larger. Connective long, arched, extending to near base of anal tube.

Female genitalia. Seventh sternum (Fig. 8) with lingulate median process, length about half median length of segment, apex bluntly rounded.

Types. Holotype male, Ecuador, Galapagos Islands, Santa Cruz, 1 km S Media Luna, Miconia, 550m., 2-8-II-1989, dung trap, B. J. Sinclair. Allotype female same data as holotype. Paratypes: 31 (17 males, 14 females); 1 male same data as holotype; 2 females, same data as holotype except 600m., 21-I-1989 uv-light, S. Peck 89-6; 16 males, 12 females, same data as holotype except 500m., 1-29-II-1989, FIT-trough, Peck and Sinclair 89-39. Holotype, allotype and 1 male, 2 female paratypes in the California Academy of Sciences; 4 male, 4 female paratypes in the University of Kentucky Collection; 4 male 4 female paratypes in the Canadian National Collection, 4 male, 1 female paratypes in the National Collection in Ecuador; 4 male, 1 female paratypes in the Catholic University Collection in Quito, Ecuador.

Distribution. Over 2,000 specimens of this species have been seen from the following Islands: Santa Cruz, Floreana, Santiago, Isabela and Fernandina. The complete listing of the localities and where the specimens are deposited can be obtained from the author. This is without a question the most common *Agallia* species on the Islands at this time. Three females which fit this species are also known from Guayaquil, Ecuador, in the California Academy of Sciences collection.

Etymology. This species is named for Stuart Peck who collected most of the specimens of this species. His extensive work on the Galapagos Islands is also well known.

Notes. This species appears to be a recent introduction from the coastal region of the mainland. It also seems to have replaced the earlier species which were known from the Galapagos Islands. Both previously known *Agallia* species, *A. plana* (Butler 1877) and *A. striolaris* (Butler 1877) have not been collected in recent years.

Agallia peregrinans (Stål)
(Figure 1)

Bythoscopus peregrinans Stål 1859.

Agallia peregrinans Linnavuori and DeLong 1979.

Length. Males 3.6-3.9 mm., females 3.8-4 mm. This species was originally described from Rio de Janeiro, Brazil, although several other localities were mentioned at that time, such as Oahu, Hawaii, Tahiti and California. At the same time an unnamed variety was described from Rio de Janeiro, Brazil. To restrict the type locality and to clarify the identity of this species I designate the male type specimen from Rio de Janeiro, Brazil, and illustrated by Linnavuori and DeLong (1979) as the Lectotype of this species. It will be so labeled.

Male genitalia. This species is in a species complex which has an aedeagus similar to *A. nielsoni* except for the apex of the shaft, which is bifurcate (Fig. 1). This species also has a spur-like extension on the caudal margin of the male pygofer, and the genital plates are curved and much longer. The male genitalia (Fig. 1) are not identical to those illustrated of a male type by Linnavuori and DeLong (1979), in that the genital plate is shorter and the process on the pygofer is smaller in their drawing.

Female genitalia. The female of this species appears to not have a lingulate median process on the seventh sternum and is nearly straight across. Another species group of *Agallia* found in South America does have a lingulate process, but these are sinuate in lateral view, and most species of this group are undescribed or the female is not associated with a described male at this time. Also in the three species described in this paper the lingulate process is straight in lateral view, not sinuate. This species is in a species group only found in South America, which have the aedeagus of the male recurved and needle-like, with the apex bifurcate, with a long genital plate; and the female seventh sternum without a lingulate median process.

This group includes the following species: *A. lauta* (Stål) 1862, *A. quadrata* Oman 1938, and *A. longicauda* Linnavuori and DeLong 1979. The illustration of *A. peregrinans* (Fig. 1) would also fit that of *A. lauta* or *A. quadrata*, so this group needs to be revised to verify these species names and to describe the associated females which at this time are mostly unknown.

Note. The localities given in the original description of *A. peregrinans* that are not from Brazil are surely wrong, as all specimens presently known of this species are from Brazil.

Agallia rotunda, NEW SPECIES
(Figures 9-10)

Length. Males 3.6-4 mm., females 3.9-4.1 mm. Similar to *nielsoni* in general appearance, except slightly larger, with larger male genitalia and female seventh sternum.

Male genitalia. Plates (Fig. 9) relatively short, slightly exceeding length of pygofer. Pygofer rounded on apical margin. Aedeagus similar to *nielsoni* except larger.

Female genitalia. Seventh sternum (Fig. 10) with lingulate median process, longer than basal part of sternum.

Types. Holotype male, Venezuela, Trujillo, near Mosquey, 1300m, May 17, 1985, on grasses, P. H. Freytag and M. A. Giaiani. Allotype female same data as holotype. Paratypes: 31 males, 27 females same data as holotype. Holotype, allotype and 10 male and 10 female paratypes in the MIZA collection, Maracay, Venezuela. Remainder of the paratypes in the University of Kentucky Collection.

Notes. This species appears to be associated with higher elevations of the Andes Mountains, and the type locality is probably near the Northern Distribution of this species. Other specimens are at hand from the state of Trujillo, Venezuela.

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